

WHAT IS CLAIMED IS:

1. A liquid crystal display (LCD), comprising:

a data storing means for storing present input data and  
5 outputting the stored present input data as previous input  
data;

a look-up table for storing corrected present input data  
and corrected previous input data, each of which corresponds  
to the present input data and the previous input data;

10 a controlling means for generating first and second load  
signals, storing the present input data at the data storing  
means, reading out the previous input data from the data  
storing means, converting the present input data and the  
previous input data into the corrected present input data and  
15 the corrected previous input data with reference to the look-  
up table, calculating a mean value based on the corrected  
present input data and the corrected previous input data,  
replacing the calculated mean value with a value  
approximating to original gray scale data, and outputting the  
20 replaced value as free-charge data; and

a liquid crystal driving means for converting the free-  
charge data into analog signals and generating liquid crystal  
driving signals based on the converted analog signals in  
response to the first and second load signals.

2. An LCD as claimed in claim 1, wherein the look-up table stores preset 64 gray scale analog voltages corresponding to the present input data.

5

3. An LCD as claimed in claim 1, wherein the controlling means comprises a correcting data generator for converting and outputting the present input data and the previous input data into the corrected present input data and the corrected  
10 previous input data with reference to the look-up table, an adder for adding both the corrected present input data and the corrected previous input data, a divider for dividing the data added by the adder to calculate the mean value, and a data replacer for replacing the mean value calculated by the  
15 divider with the value approximating to the original gray scale data and outputting the replaced value.

4. An LCD as claimed in claim 2, wherein the data replacer adds a predetermined weight to the mean value  
20 calculated by the divider and performs data replacement through rounding off.

5. An LCD as claimed in claim 1, wherein the liquid crystal driving means comprises a digital/analog converter

for converting and outputting the free-charge data into the analog signals, a first switch for performing switching in response to the first load signal, a second switch for performing switching in response to the second load signal, a  
5 sample and holder circuit section for performing sampling and holding of output signals of the digital/analog converter when the first switch is switched, an output amplifier for amplifying and outputting the sampled and held signals when the second switch is switched.

10

6. A method for driving a liquid crystal display (LCD) with a look-up table, in which the look-up table has a plurality of analog voltages corresponding to a plurality of gray scale data, the method comprising the steps of:

15 storing present input data at a data storage unit;  
reading out the present input data stored at the data storage unit as previous input data;

converting the present input data and the previous input data into corrected present input data and corrected previous  
20 input data respectively with reference to the look-up table;

calculating a mean value based on the corrected present input data and the corrected previous input data;

generating free-charge data by replacing the calculated mean value with a value approximating to original gray scale

data and;

converting the free-charge data into analog signals and  
performing sampling and holding of the converted results; and

amplifying the sampled and held analog signals to  
5 generate liquid crystal driving signals.

7. A method as claimed in claim 6, wherein the step of  
generating the free-charge data comprises the sub-steps of:  
adding a predetermined weight to the calculated mean value,  
10 and performing rounding off the mean value added by the  
weight.